

The Deep South Center for Occupational Health & Safety

Summary Annual Report July 1, 2009 - June 30, 2010 NIOSH Training Grant T42OH008436

Submitted by:
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The Deep South Education and Research Center is a consortium of programs at the University of Alabama at Birmingham (UAB) and Auburn University (AU). The mission of the Deep South Center is to develop professionals who protect and promote the health and safety of workers through interdisciplinary education, research, and outreach programs, and our goal is to be a center of excellence that promotes occupational safety and health to serve the needs of Alabama, Georgia, Mississippi, Tennessee, and the Florida panhandle.

The Center's Administrative Core, Continuing Education (CE), and Hazardous Substance Training (HST) programs are located at the UAB School of Public Health. The academic and research programs of the ERC include:

- Industrial Hygiene (IH) and Hazardous Substance Academic Training (HSAT) programs in the UAB School of Public Health
- Occupational Health Nursing (OHN) and a NORA research program in the UAB School of Nursing
- Occupational Safety and Ergonomics (OSE) and Occupational Injury Prevention Research Training (OIPRT) programs in the AU Samuel Ginn College of Engineering

Administrative Core – Dr. Riedar K. Oestenstad, Center Director orestk@uab.edu

The Administrative Core includes the Center Director, Dr. Riedar K. Oestenstad, the Deputy Director, Dr. Elizabeth Maples, support staff, an Executive Committee, and an external Board of Advisors. The Administrative Core incorporates the Outreach and Diversity programs, directed by Dr. Maples, Pilot Project Research Training (PPRT) program, directed by Dr. Ed Postlethwait, and Interdisciplinary Coordination. The Executive Committee includes the Center Director, Deputy Director and all of the Program Directors. The committee meets monthly to review progress in achieving program goals, student progress, plan short-term Center activities, and conduct long-term strategic planning. The Board of Advisors consists of 22 members with a self-elected chair, and includes representatives from industry, the military, healthcare, government agencies and labor unions, and is from all of the states in our region. The committee meets at least annually with the Executive Committee and, in a separate executive session, is provided with periodic updates from the Deputy Director.

Outreach – Dr. Elizabeth H. Maples, Program Director ehm@uab.edu

A significant Outreach effort has been the annual Summer Institute in Occupational and Environmental Safety and Health for undergraduate students. This year's Institute offered a great opportunity for nine undergraduate students to learn more about careers in the occupational safety and health professions. The students represented seven institutions from around the country, and three of the nine were from minority groups. The students attended three days of classroom sessions on a variety of occupational safety and health topics; and one day during a summer heat wave distributed cold water, reusable water bottles and information on heat stress prevention to construction workers.

Diversity – Dr. Elizabeth H. Maples, Program Director ehm@uab.edu

The Diversity program maintains a database on Historically Black College and Universities (HBCUs) in our region. The HBCU database is used to invite college and university faculty and graduate students to attend annual research days and symposia in our region, inform them of PPRT funding opportunities, and invite undergraduate students to attend the Summer Institute.

Interdisciplinary Activities – Program Director, Dr. Elizabeth H. Maples ehm@uab.edu

Interdisciplinary activities continue to be an important Center priority, and all of the Center's Program Directors are involved in these activities. The Center's Board of Advisors has an interdisciplinary composition with representatives from all of the occupational safety and health core disciplines. The primary methods of achieving interdisciplinary interaction among students include common academic



courses, workplace evaluation field trips, seminars, research projects, and clinical activities. The capstone interdisciplinary activities are two worksite evaluation courses; one in each semester of the academic year. Students are required to work in interdisciplinary teams in these courses to evaluate real-world safety and health problems, and propose methods to reduce or eliminate identified hazards.

Pilot Project Research Training – Program Director, Dr. Ed Postlethwait

EPostlethwait@uab.edu

The PPRT program funded five applications in 2009-2010. Award recipients were:

- *Adsorption Characteristics of Activated Carbon Fibers for Selected Gases & Vapors*, Jo Anne G. Balanay, PhD student, University of Alabama at Birmingham
- *Fatigue and Postural Instability in the Railroad Industry*, Dr. John C. Garner, Assistant Professor, University of Mississippi
- *Improving Comprehension of GHS Safety Data Sheets*, Eric John Boelhouwer, PhD candidate, Auburn University
- *Workplace Health Assessment and Prevention among Hispanic Construction Workers*, Alberto Caban-Martinez, PhD student, University of Miami
- *Designing Safety Warning Symbols with Artificial Intelligence Assisted Focus Groups*, Adam K. Piper, PhD candidate, Auburn University

Continuing Education & Hazardous Substances Training – Program Director, Dr. Elizabeth H. Maples

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The Continuing Education and Hazardous Substances Programs offered 62 programs during the 2009-2010 year in MS, AL, TN and FL. Over 1300 participants were involved in short courses offered in classroom and web-based formats. Partnerships were essential to maximize resources with the ERC; collaboration took place with statewide and regional professional organizations, academic units, and non-profit organizations to offer training opportunities. The Deep South Center collaborated with the Sunshine and UNC ERCs to offer a Research to Practice Symposium in Orlando, FL that was well attended and featured presentations by faculty from all three ERCs and researchers from NIOSH.

Industrial Hygiene and Hazardous Substances Academic Training – Program Director, Dr. Claudiu Lungu

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The IH program had six masters and five PhD students enrolled in 2009-2010, and graduated three masters students; four students were enrolled in the HSAT program and two graduated. Two doctoral students passed their written and oral qualifying examinations and were admitted to candidacy. Student achievements included six students presenting student posters at the AIHC&E in Denver, CO; one doctoral student made a presentation in the UAB Graduate Student Research Day competition; and three students presented posters at the School of Public Health Research Day. Faculty achievements included Dr. Oestenstad making a podium presentation at the AIHC&E; Dr. Oestenstad was the recipient of the 2009 UAB School of Public Health Back of the Envelope Award to conduct research on the efficacy of N95 respirators after repeated donnings. Dr. Lungu received funding from NIEHS through an R21 (PI: Dr. Sathiakumar) to study correlation between Prenatal Exposure to Solid Fuel Smoke and Outcomes in Sri Lanka. IH/HSAT faculty had five peer-reviewed publications in 2009-2010. Dr. Maples received funding from NIOSH to participate in a field study to validate sampling procedures for wood dust. She also served on the NIOSH Task for Workforce Development. Drs. Oestenstad and Lungu were recipients of the UAB Graduate School Dean's Outstanding Mentor Award. They are also participating in School of Public Health research activities related to the Gulf oil spill.

Occupational Health Nursing – Program Director, Dr. Karen Heaton kharnp@uab.edu

The OHN program had seven masters and four doctoral students enrolled in 2009-2010; with one masters and two PhD students graduated. Student achievements included one doctoral student poster presentation at AAOHN. Faculty achievements included Dr. Heaton becoming the OHN Program Director as of July 1, 2009; Dr. Phillips making a podium presentation at AAOHN, and Dr. Brown continued on the NIOSH OHN Task Force. Dr. Heaton received two intramural grant awards. A significant achievement of the OHN program was the development of two new courses: *Principles and Practice of Occupational Toxicology and Disease*, and *Evaluation and Management of Occupational Health and Safety Programs*.

NORA Research Program – Program Director, Dr. Kathleen Brown brownk@uab.edu

The third year of the five year clinical trial to investigate the effectiveness of occupational health nursing case management in improving outcomes for workers with hypertension and elevated cholesterol was completed in 2009-2010. The target number of 308 research participants were recruited, and the first cohort completed the two year intervention. Additional cohorts of participants will be continuing the interventions during years 4 and 5.

Occupational Safety & Ergonomics – Program Director, Dr. Jerry Davis, davisga@auburn.edu

The OSE program had 19 masters and eight doctoral students enrolled in 2009-2010; with six masters and one doctoral student graduating. There were significant faculty changes during the year: Dr. Jerry Davis became the OSE Program Director on July 1, 2009; Dr. Jerry Davis was promoted to associate professor and awarded tenure on October 1, 2009; Dr. Rob Thomas retired from the faculty on December 31st, 2009; and Dr. Woojin Park joined OSE/OIPRT faculty on January 1, 2010.

Occupational Injury Prevention Research Training – Program Director, Dr. Rich Sesek rfs0006@auburn.edu

The OIPRT program had four doctoral students enrolled during 2009-2010, and graduated one student. Dr. Sesek became the OIPRT Program Director on July 1, 2009.

2009-2010 Enrollment and Graduation Data for Center Academic Programs

Program	Masters					Doctoral				
	Full-Time Trainees	NIOSH- Supported Trainees	Part-Time Trainees	Part-Time NIOSH-Supported Trainees	Graduated	Full-Time Trainees	NIOSH- Supported Trainees	Part-Time Trainees	Part-Time NIOSH-Supported Trainees	Graduated
IH	6	6	0	0	3	5	4	0	0	0
HSAT	4	4	0	0	2					
OHN	7	5	2	2	1	4	1	0	0	2
OSE	19	13	6	0	6	8	3	2	1	1
OIPRT						4	4	0	0	1
Totals	36	28	8	2	12	21	12	2	1	4

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